

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB2004/051040

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H01L29/778 H01L29/15

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, INSPEC, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 908 678 A (YAMAZAKI SHUNPEI) 13 March 1990 (1990-03-13)	1-6, 9, 10, 13-17, 21 14, 22
Y	column 1, line 53 - column 2, line 22; figures 1, 2 column 3, line 26 - line 38 column 2, line 33 - line 44 -----	
X	US 5 055 887 A (YAMAZAKI SHUNPEI) 8 October 1991 (1991-10-08)	1-6, 9, 11, 13-17, 21 14, 22
Y	column 1, line 66 - column 2, line 32; figures 1, 2 column 3, line 57 - line 65 column 3, line 36 - line 49 column 1, line 66 - column 2, line 32 ----- -/-	

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

\*A\* document defining the general state of the art which is not considered to be of particular relevance

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\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

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\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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\*Z\* document member of the same patent family

Date of the actual completion of the international search

5 October 2004

Date of mailing of the international search report

19/10/2004

Name and mailing address of the ISA

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>US 4 695 857 A (BABA TOSHIO ET AL) 22 September 1987 (1987-09-22)</p> <p>column 6, line 3 - line 19; figures 1-14 column 9, line 34 - column 10, line 37 column 2, line 3 - line 4 column 5, line 34 - line 44</p>	1-6,14, 15,17, 18,21
X	<p>US 4 665 412 A (OHKAWA TIHIRO ET AL) 12 May 1987 (1987-05-12)</p> <p>column 2, line 29 - line 36; figures 1-5 column 3, line 1 - line 18 column 10, line 10 - line 31 column 13, line 39 - line 44 column 2, lines 64-66 column 12, line 3 - line 6</p>	1-5, 14-18,21
X	<p>KOJI Y ET AL: "THE FORMATION OF RESONANCE TUNNEL DIVICE BY GAMMA-AL2O3/SI MULTIPLE HETROSTRUCTURE" EXTENDED ABSTRACTS OF THE INTERNATIONAL CONFERENCE ON SOLID STATE DEVICES AND MATERIALS, JAPAN SOCIETY OF APPLIED PHYSICS. TOKYO, JA, vol. 2001, 26 September 2001 (2001-09-26), pages 588-589, XP001074916 sections 1,2 abstract</p>	1,3-5,9, 14,15, 17,18,21
X	<p>LU Z H ET AL: "Crystalline &lt;formula&gt;&lt;roman&gt;Si&lt;/roman&gt;/&lt;roman&gt;SiO&lt;/rom an&gt;&lt;inf&gt;2&lt;/inf&gt; &lt;/formula&gt; quantum wells" APPLIED PHYSICS LETTERS, AMERICAN INSTITUTE OF PHYSICS. NEW YORK, US, vol. 80, no. 2, 14 January 2002 (2002-01-14), pages 255-257, XP012030900 ISSN: 0003-6951 abstract page 255, left-hand column, line 19 - line 32</p>	1,3-5,9, 14,15,21
X	<p>MEREU B ET AL: "Fowler-Nordheim tunneling in epitaxial yttrium oxide on silicon for high-k gate applications" 2002 INTERNATIONAL SEMICONDUCTOR CONFERENCE. CAS 2002 PROCEEDINGS (CAT. NO.02TH8618) IEEE PISCATAWAY, NJ, USA, vol. 2, 8 October 2002 (2002-10-08), - 12 October 2002 (2002-10-12) pages 309-312 vol.2, XP002299184 ISBN: 0-7803-7440-1 section 3, paragraph 1 abstract</p>	14,15, 17-21